REMARKS

Claims 7-11, 15-19, and 31-44 are pending. Claims 1-6, 12-14, and 20-30 are canceled. Claims 31-44 are added. Support for new claims 31-44 may be found in originally filed claims 1-30, as well as the specification on page 5, line 18, to page 12, line 11. Reconsideration of the claims is respectfully requested in view of the following remarks.

I. Examiner Interview

Applicant thanks the Examiner for the courtesies extended in the interview on May 31, 2006. Applicant presented new claims for consideration and requested reconsideration of the rejection of claims 7-11 and 15-19. The Examiner agreed to reconsider the rejection of claims 7-11 and 15-19, particularly whether the *Dautelle* reference is analogous art.

II. 35 U.S.C. § 101, Allegedly Non-Statutory Subject Matter in Claims 23-30

The Office rejects claims 23-30 under 35 U.S.C. § 101 as allegedly being directed to non-statutory subject matter. Claims 23-30 are hereby canceled. Therefore, Applicant respectfully requests withdrawal of the rejection under 35 U.S.C. § 101.

III. 35 U.S.C. § 102, Alleged Anticipation of Claims 12 and 13

The Office rejects claims 12 and 13 under 35 U.S.C. § 102(b) as allegedly being anticipated by *Abramson et al.* (U.S. Patent No. 5,898,854). Claims 12 and 13 are hereby canceled. Therefore, Applicant respectfully requests withdrawal of the rejection under 35 U.S.C. § 102(b).

IVA. 35 U.S.C. § 103, Alleged Obviousness of Claims 1-6

The Office rejects claims 1-6 under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Witt* (U.S. Patent No. 6,141,747) in view of *Akkary et al.* (U.S. Patent Application Publication No. 2001/0014941). Claims 1-6 are hereby canceled. Therefore,

Applicant respectfully requests withdrawal of the rejection of claims 1-6 under 35 U.S.C. § 103(a).

IVB. 35 U.S.C. § 103, Alleged Obviousness of Claims 7-11

The Office rejects claims 7-11 under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Witt* in view of *Akkary et al.* and *Dautelle* (U.S. Patent Application Publication No. 2004/0015740). This rejection is respectfully traversed.

Witt teaches a system for store to load forwarding of individual bytes from separate store buffer entries to form a single load word. *Witt* teaches a processor that includes a load/store queue **60** and a separate store queue **64**. See *Witt*, col. 11, lines 36-65.

The Office Action acknowledges that Witt fails to teach taking a snapshot of the order of each of the plurality of command queues upon entering the command. The Office Action alleges that *Akkary* teaches determining if a command is dependent on any other commands at **FIG. 13**, and paragraphs [0119]-[0120], and that dependency bits are computed sequentially. **FIG. 13** of *Akkary* appears to illustrate a dependency array, while **FIG. 12** of *Akkary* appears to illustrate an instruction queue array.

The Office Action further alleges that *Dautelle* teaches taking a snapshot of the command queue after entering a command at **FIGS. 1** and **3**, and paragraphs [0051] and [0061]. *Dautelle* teaches a system and method for asynchronous storage and playback of a system state. While *Dautelle* does indeed include the word "snapshot," *Dautelle* does not teach or fairly suggest taking a snapshot of a plurality of command queues upon entering a command into a command queue. Rather, *Dautelle* teaches a system for taking a snapshot of a display, such as an air traffic control display. See *Dautelle*, paragraph [0012]. In *Dautelle*, the commands are display commands, or in more specific embodiments display commands for an air traffic control display.

Non-analogous art cannot be used to establish obviousness. *In re Pagliaro*, 210 U.S.P.Q. 888, 892 (C.C.P.A. 1981). Although one of ordinary skill in the art is presumed to be aware of all prior art in the field to which the claimed invention pertains, he or she is not presumed to be aware of prior art outside of that field and the field of the problem to be solved. The *Witt* and *Akkary* references are directed to the field of instruction queues within a processor, while *Dautelle* is directed towards taking snapshots of

displays in an air traffic control system. Therefore, *Dautelle* is non-analogous art and cannot be used to form a *prima facie* case of obviousness.

The Office Action alleges that *Dautelle* is analogous prior art because all of the references are in the same field of endeavor of "computer systems and keeping track of commands." Applicant asserts that the field of endeavor proposed by the Office Action is unduly broad. One cannot merely stretch a rubber band around the prior art to make it analogous. Why would a person considering the load forwarding system of *Witt* consider the system for taking snapshots of air traffic control displays taught by *Dautelle* to solve the deficiencies of the prior art? Why would a person combine the dependency array for an instruction queue within a processor, as taught by *Akkary*, with a system for taking a snapshot of display commands, as taught by *Dautelle*? Applicant asserts that a person of ordinary skill in the art of command queues and instruction queues in processors would not look to the display snapshot system of *Dautelle*.

Moreover, the Office may not use the claimed invention as an "instruction manual" or "template" to piece together the teachings of the prior art so that the invention is rendered obvious. *In re Fritch*, 972 F.2d 1260, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992). Such reliance is an impermissible use of hindsight with the benefit of Applicant's disclosure. *Id.* Therefore, absent some teaching, suggestion, or incentive in the prior art, *Witt*, *Akkary*, and *Dautelle* cannot be properly combined to form the claimed invention. The Office Action alleges that a person of ordinary skill in the art would have been motivated to combine *Witt*, *Akkary*, and *Dautelle* "to concurrently execute different threads from the same program where there are dependencies among the threads." However, the Office Action proffers no explanation as to why *Dautelle* achieves this result. In fact, it appears that *Akkary* achieves this result without the other two references. As a result, absent any teaching, suggestion, or incentive from the prior art to make the proposed combination, the presently claimed invention can be reached only through an impermissible use of hindsight with the benefit of Applicant's disclosure a model for the needed changes.

Since claims 8-11 depend from claim 7, the same distinctions between *Witt*, *Akkary*, and *Dautelle* apply for these claims. In addition, claims 8-11 recite further combinations of features not taught or suggested by the prior art.

Therefore, Applicant respectfully requests withdrawal of the rejection of claims 7-11 under 35 U.S.C. § 103(a).

IVC. 35 U.S.C. § 103, Alleged Obviousness of Claims 14, 20-22, and 28-30

The Office rejects claims 14, 20-22, and 28-30 under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Abramson* in view of *Eisen et al.* (U.S. Patent No. 6,289,437). Claims 14, 20-22, and 28-30 are hereby canceled. Therefore, Applicant respectfully requests withdrawal of the rejection of claims 14, 20-22, and 28-30 under 35 U.S.C. § 103(a).

IVD. 35 U.S.C. § 103, Alleged Obviousness of Claims 15-19 and 23-27

The Office rejects claims 15-19 and 23-27 under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Witt* in view of *Akkary et al.* and *Dautelle*, and further in view of *Eisen*. This rejection is respectfully traversed.

Claims 15-19 recite subject matter addressed above with respect to claims 7-11 and are allowable for similar reasons. The Office relies on Eisen as allegedly teaching a computer program product embodied on a computer medium. However, Eisen does not solve the deficiencies of Witt, Akkary, and Dautelle discussed above. Thus, a combination of *Witt*, *Akkary*, *Dautelle*, and *Eisen* fails to render claims 15-19 obvious. Claims 23-27 are canceled.

Therefore, Applicant respectfully requests withdrawal of the rejection of claims 15-19 and 23-27 under 35 U.S.C. § 103(a).

V. New Claims 31-44

New claims 31-44 recite subject matter addressed above with respect to claims 7-11 and 15-19 and further combinations of features not taught or suggested by the prior art of record. For example, independent claims 31 and 38 recite a plurality of command queues comprising a strict order queue and a stack down order queue; a command entry that comprises a command portion, a validation bit portion, and a set of dependency bits; taking a snapshot of an opposing command queue within the plurality of command queues; and setting the validation bit portion and the set of dependency bits in the

command entry based on the snapshot of the opposing command queue. Dependent claims 35 and 42 recite updating the validation bit portion and the set of dependency bits of remaining command entries within the plurality of command queues based on a retire signal. The cited and applied prior art fail to teach or suggest these combinations of features. Therefore, Applicant submits that claims 31-44 are allowable over the prior art of record.

VI. Conclusion

It is respectfully urged that the subject application is now in condition for allowance. The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

Respectfully submitted,

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